

#### ABSTRACT OF THE DISCLOSURE

A data driver of a display forming an image frame by sequentially scanning horizontal lines. The data driver comprises a shift register receiving image data of three primary colors in serial and outputting them in parallel within each scan duration, a sample and hold register acquiring the image data from the shift register, a gamma multiplexer outputting gamma reference voltages for the three primary colors in a predetermined sequence within each scan duration, three DACs receiving the image data of the three primary colors from the sample and hold register and the gamma reference voltages from the gamma multiplexer, and outputting calibrated image signals of the three primary colors, respectively, and three buffers receiving the calibrated image signals from the three digital-to-analog converters in the sequence of the primary colors.